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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/713,412	11/14/2003	Bryan M. Cantrill	03226.341001; SUN040193	7003
32615	7590	12/26/2007	EXAMINER	
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HOUSTON, TX 77010				
			ART UNIT	PAPER NUMBER
			2191	
			NOTIFICATION DATE	DELIVERY MODE
			12/26/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/713,412

Applicant(s)

CANTRILL, BRYAN M.

Examiner

Phillip H. Nguyen

Art Unit

2191

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 October 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 10-28 is/are rejected.
- 7) ☒ Claim(s) 9 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This action is in response to the amendment filed 10/12/2007.
2. Claims 1-28 are pending and have been considered below.

Response to Amendment

3. The rejection to claims 1-23 and 28 under 35 U.S.C. 102(e) is withdrawn in view of Applicants' amendment.
4. The rejection to claims 24-27 under 35 U.S.C. 103(a) is withdrawn in view of Applicants' amendment.

Response to Arguments

5. Applicant's arguments with respect to claims 1-28 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 1-28 are rejected under 35 U.S.C. 102(e) as being anticipated by Bryant et al. (United States Patent No.: US 6,728,949 B1).

As per claims 1 and 28:

Bryant teaches:

- firing a probe associated with a thread (see at least col. 11, line 14 "**trace hooks are turned on**"; also see at least col. 26, lines 9-10 "**the instrumentation code that was patched into the application code is executed**"; also see at least **FIGS. 6 and 22**);
- evaluating a first predicate of the probe (see at least col. 23, lines 30-45 "**A trace condition mask contains a set of trace condition bits or flags set by the profiler or instrumented code to represent either execution conditions or instrumented routine. Zero or more active or true execution conditions are individually represented by an execution condition flag in the trace condition mask...**"; also see at least col. 26, lines 10-13 "**sets or resets execution condition flags or active routine flags within the trace condition mask as necessary, possibly in conjunction with other profiling actions**");
- caching the first predicate in a predicate cache associated with the thread, based on the evaluating of the first predicate and cacheability of the first predicate (see at least col. 26, lines 14-20 "**At some point in time, a trace record is generated and written to a trace buffer or trace file, and the trace record contains the trace condition mask at the time that the trace record was generated...**"; also see at least col. 26, lines 59-60 "**a trace**

record is generated that includes the current value of the trace

condition mask"); and

- transferring control to the thread, based on the caching (see at least col. 26, lines 29-37: "**A determination is made as to whether a user-specified trace mask has been previously generated, i.e. whether the user-specified trace mask is non-zero. If not, may be generated under all conditions. In other words, if the user has not specified any qualifying conditions or routines, then this is interpreted as indicating that the user does not wish to qualify the profiling functionality and desires to generated trace records under all condition**").

As per claim 2:

Bryant further teaches:

- wherein the evaluating comprises determining a Boolean value of the first predicate (see at least col. 23, lines 4-5 "**condition is active or true, and when the trace condition is no longer active or is false...**"; also see at least col. 23, lines 33-35 "**Zero or more active or true execution conditions are individually represented by an execution condition flag in the trace condition mask**").

As per claim 3:

Bryant further teaches:

- wherein the Boolean value is true (see at least col. 23, lines 4-5 "*condition is active or true, and when the trace condition is no longer active or is false...*"; also see at least col. 23, lines 33-35 "*Zero or more active or true execution conditions are individually represented by an execution condition flag in the trace condition mask*").

As per claim 4:

Bryant further teaches:

- executing an action of the probe (see at least col. 26 lines 14-20 "*tracing*").

As per claim 5:

Bryant further teaches:

- wherein the Boolean value is false (see at least col. 23, lines 4-5 "*condition is active or true, and when the trace condition is no longer active or is false...*").

As per claim 6:

Bryant further teaches:

- determining whether the first predicate is cacheable (see claim 1).

As per claims 7 and 8:

Bryant further teaches:

- wherein cacheable is the first predicate referencing an immutable or a thread-specific variable (see at least col. 22, line 63 "**trace condition mask**").

As per claim 10:

Bryant further teaches:

- wherein the transferring occurs if the first predicate is cached in the predicate cache (see claim 1).

As per claim 11:

Bryant further teaches:

- wherein the probe further encounters a second predicate of the probe (see at least col. 23, line 30 "**A trace condition mask contains a set of trace condition bits or flags**" – *In other words, there are more than one condition flags*).

As per claims 12-17:

- see claims 1-6

As per claim 18:

Bryant further teaches:

- identifying the second predicate using the predicate cache identifier, if the first predicate and the second predicate are the same (see at least col. 26, lines

29-37 "***A determination is made as to whether a user-specified trace mask has been previously generated***").

As per claims 19 and 20:

Bryant further teaches:

- wherein cacheable is the first predicate referencing an immutable variable and the first predicate and the second predicate having the same identifier (see at least col. 26, lines 50-60 "***user-specified trace mask and the trace condition mask are compared or matched if the masks do not comprise bit flags...A determination is the made as to whether the result of the bitwise AND operation indicates that the user-specified trace mask and the trace condition mask having corresponding flags...a trace record is generated that includes the current value of the trace condition mask***").

As per claim 21:

Bryant further teaches:

- determining whether the first predicate is cached (see claim 1); and
- determining whether the predicate cache is valid ("***active***" is considered valid and "***inactive***" is considered invalid).

As per claims 21 and 22:

Bryant further teaches:

- wherein the determining whether the predicate is cached comprises comparing whether a probe cache identifier and a predicate cache identifier stored in the predicate cache are equivalent (see at least col. 26, lines 27-65).

As per claims 24 and 25:

Bryant further teaches:

- invalidating the predicate cache (also see at lines 20-29 "***Tracing finishes when the trace buffer has been filled...when tracing is finished, the buffer contents are sent to a file for post-processing***" – empty the buffer when it's filled).

As per claim 26:

Bryant further teaches:

- wherein the invalidating is a result of a thread-specific variable being stored (see at least col. 26, lines 14-20 "***At some point in time, a trace record is generated and written to a trace buffer or trace file, and the trace record contains the trace condition mask at the time that the trace record was generated...***"; also see at least col. 26, lines 59-60 "***a trace record is generated that includes the current value of the trace condition mask***").

As per claim 27:

Bryant further teaches:

- setting the predicate cache to zero initially (see at least col. 11, line 12
"allocating a buffer" – the new allocated buffer is initially zero; also see at
lines 20-29 **"Tracing finishes when the trace buffer has been filled...when
tracing is finished, the buffer contents are sent to a file for post-
processing"** - the buffer is set to zero when it's filled).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phillip H. Nguyen whose telephone number is (571) 270-1070. The examiner can normally be reached on Monday - Thursday 10:00 AM - 3:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wei Y. Zhen can be reached on (571) 272-3708. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

PN
12/11/2007


WEI ZHEN
SUPERVISORY PATENT EXAMINER